

REMARKS

A two-month extension of time to respond is hereby requested. As extended, the period for response will expire on May 15, 2001.

A reconsideration of pending Claims 1-14 is requested in view of the amendments and comments contained herein. Claims 1 and 3 have been amended and new Claims 9-14 have been added.

Claim 1 has been amended to overcome the anticipation rejection, which is based on EP 138,204, by requiring that claimed component (a) is a "phosphate ester" as recited at page 3, line 5 of the present application. The cited reference clearly shows the required use of a phosphonate, which contains a P(O) to carbon linkage, namely, the moiety $>P(O)-R^4-$ as depicted at page 2, lines 18-21 of that citation. The person of ordinary skill in the art would certainly not be induced to select a phosphate ester, which has the far differing structure $P(O)(OR)_3$, from this prior art disclosure. Removal of this anticipation rejection is requested.

The rejection of Claims 1-7 as unpatentable over the Sicken patent or either of the Fearing patents in view of either the Keppeler patent or EP 428,221 (the "European patent") is respectfully traversed for the following reasons:

> As the Examiner has admitted, neither the Sicken nor Fearing patents, which do show the use of oligomeric organophosphorus flame

retardants in polyurethane foams, give any specific guidance in regard to their very vague indication that "other" flame retardants might also be used.

- In an effort to cure the aforementioned deficiencies of each of the primary citations, the Examiner has first cited the Keppeler patent to allegedly suggest the selection of applicants' recited non-oligomeric, non-halogenated phosphate ester. However, this patent provides such a long list of possible choices at col. 7, line 33 to Col. 8, line 67 that it really affords no clear teaching or even suggestion of making such a choice. In fact, the section of this reference at Col. 8, lines 7-11 gives "preference" to "aminomethylated phosphonic acid esters" which are, like the Fearing disclosures previously described, "phosphonates" rather than "phosphate esters" as now required. The Examiner is requested to remove his reliance upon the Keppeler patent for these reasons.
- The European citation has also been applied as a secondary reference, with Example 11 being mentioned as showing the requisite blend of oligomeric and non-oligomeric flame retardants. Claim 1 has been amended to require that the applicants' oligomeric flame retardant is "non-halogenated" in order to distinguish over this citation which only shows a chlorine-containing oligomeric flame retardant.

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In view of the comments just made, the Examiner is requested to remove the obviousness rejection that has just been discussed.

The obviousness rejection of Claims 7 and 8 that is based upon the previous rejection of Claims 1-7 with the further citation of the Hardy patents should also be removed in view of the previous discussion concerning the rejection of Claims 1-7. The additional citation of the Hardy patents does not cure the deficiencies noted for the underlying rejection.

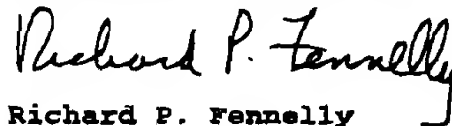
Finally, the Section 112, second paragraph rejection has been overcome by reciting the "propylated or butylated triphenyl phosphate" selection possibility in Claim 3. The insertion of "alkyl group-containing" into Claim 1 in the last Amendment was intended to remove the possibility of triphenyl phosphate (TPP) itself as being the non-oligomeric flame retardant choice in view of the teaching in our earlier EP 428,221 that TPP can be combined with oligomeric phosphate esters and that the combination can then be used in polyurethane foams. However, the person of ordinary skill in the art would recognize from page 3, lines 4-15 that other alkylated triaryl and trialkyl phosphate species can be used. Removal of the Section 112 ground of rejection is requested.

New Claims 9-14 have been added to claim the present invention in a manner that allows for the presence of triphenyl phosphate but which

distinguishes over European Patent Publication No. 428,221, for example, by reciting the preferred weight amounts provided at page 3, lines 21-22 and page 4, line 3 of the present application. This prior art citation only allows for up to about 25% of triphenyl phosphate at page 2, lines 30-31. Consideration of these new Claims against the cited art is requested.

Allowance of Claims 1-14 is requested in view of the amendments and comments contained herein.

Respectfully submitted,



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COPY OF CLAIMS SHOWING CHANGES

-- 1. A polyurethane foam that contains an effective amount for flame retardancy of a flame retardant blend consisting essentially of: (a) a non-oligomeric, non-halogenated, alkyl group-containing [organophosphorus] phosphate ester flame retardant; and (b) an oligomeric, non-halogenated organophosphorus flame retardant having a phosphorus content of no less than 10%, by weight, and at least three phosphorus atom-containing units therein. --;

-- 3. A foam as claimed in Claim 1 wherein flame retardant (a) in the blend is either propylated or butylated triphenyl phosphate [a non-halogenated phosphate ester containing aryl groups]. --; and

Claims 9-14 are newly added.